No. 764,070. PATENTED JULY 5, 1904.

W. A. PARKER.

LINE LOCK ATTACHMENT FOR TYPE WRITING MACHINES.

APPLICATION FILED AUG. 25, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

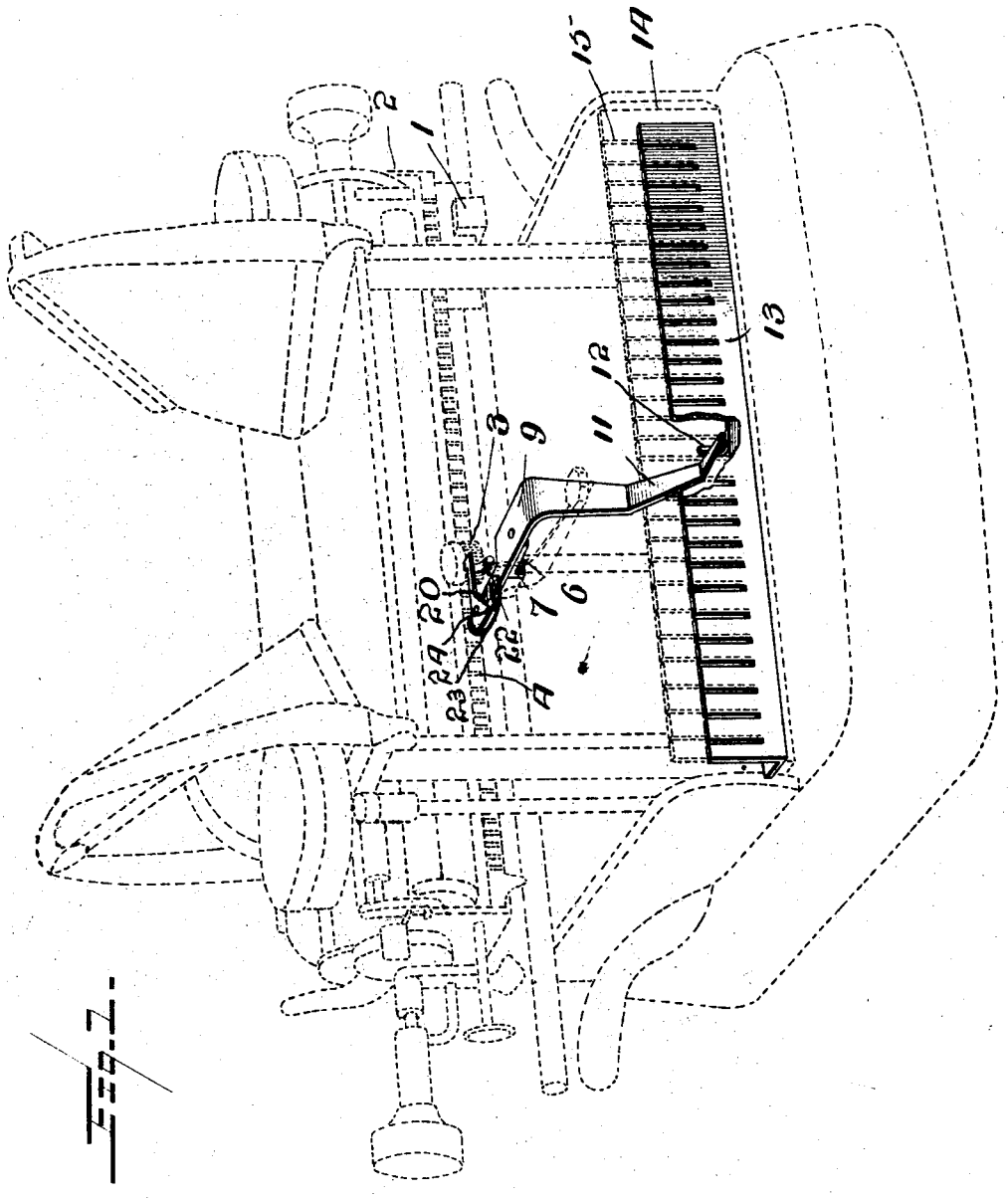


Fig. 1.

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

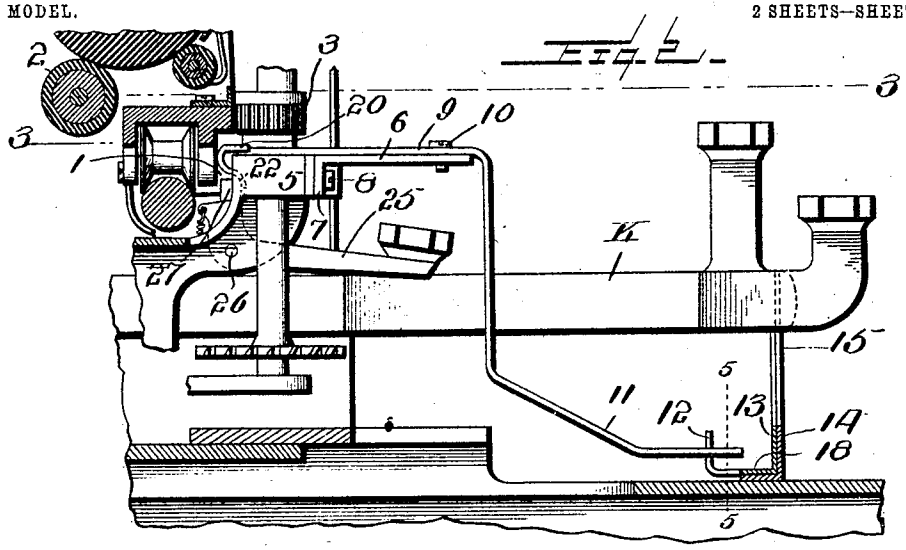


Fig. 3.

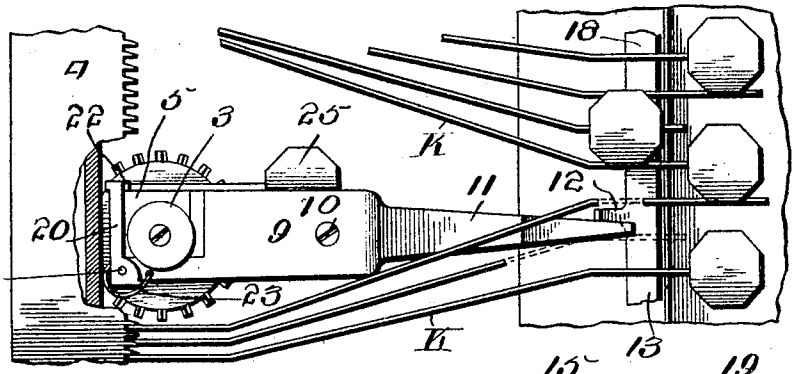


Fig. 4.

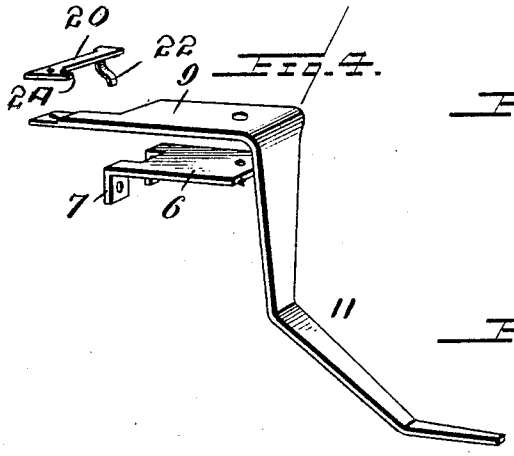


Fig. 5.

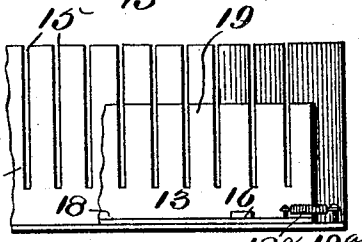
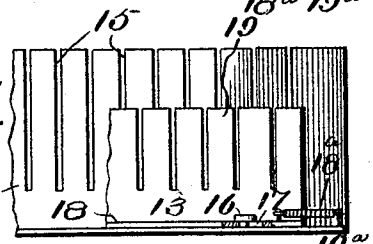


Fig. 6.



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UNITED STATES PATENT OFFICE.

WILLIAM A. PARKER, OF WACO, TEXAS.

LINE-LOCK ATTACHMENT FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 764,070, dated July 5, 1904.

Application filed August 26, 1903. Serial No. 170,723. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PARKER, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Line-Lock Attachments for Type-Writing Machines, of which the following is a specification.

This invention relates to type-writing machines, and has special reference to that type of attachments which are designed to lock the entire type and key action when the carriage has reached the end of the line being printed.

To this end the invention contemplates a line-lock attachment having special utility in connection with the Oliver type-writer and capable of working in conjunction with the parts already in use on that machine. One of the objects in this connection is to provide a line-lock capable of being attached to the machine without altering or changing any of the parts thereof, with the exception of filing off the right-hand marginal stop seven-eighths of one space.

The special purpose of the invention is to prevent the printing of one letter over another by effecting a locking of the key-levers when the carriage of the machine reaches the end of the line, while at the same time permitting of the release of the type-action from the lock, whereby the operator can print additional letters, such as may be necessary to complete a word, or as many letters or words as the remaining space on that line of the paper will hold.

A further object is to provide a line-lock device wherein no strain is imposed on the key-levers or other mechanism and which also does not affect the space-key, so that it is possible to divide words at the end of the line after the line-lock has been brought into play.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention involved in the construction provided for carrying out the special objects above indicated are necessarily susceptible to modification without departing from the scope thereof; but the preferred embodiment of the invention is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the complete line-lock device shown in its applied position to an Oliver type-writing machine, the latter being shown in dotted lines. Fig. 2 is a fragmentary sectional view of the type-writing machine, showing the several parts of the line-lock attachment in operative relation thereto. Fig. 3 is a horizontal sectional view on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the operating parts of the line-lock device shown separated. Fig. 5 is a detail elevation from the position indicated by the line 5 5 on Fig. 2, illustrating the normal relation between the locking-comb and the usual guiding-comb for the key-levers, whereby the same are permitted to freely move in operating the type-action. Fig. 6 is a similar elevation showing the shiftable comb in its locking position to prevent any of the keys of the type-action from being depressed.

Like reference characters designate corresponding parts in the several figures of the drawings.

As indicated, the line-lock attachment contemplated by the present invention is specially designed for the Oliver type-writer; but in applying the attachment to the machine no change is required in any of the working parts of the latter, excepting in the right-hand marginal stop, (designated by the numeral 1 in the drawings.) This stop is mounted in the ordinary manner upon the usual carriage 2; but for the purposes of the present invention this stop is filed off or shortened exactly seven-eighths of one space. The carriage is operated by the usual escapement mechanism, which includes the spacing-pinion 3, coöperating with the space or escapement rack 4, carried by the carriage, and the arbor or shaft for the spacing-pinion is arranged in its usual upright position within the central portion of the machine in rear of the keyboard and having a bearing adjacent to the pinion in the fixed

frame member or boxing 5, which is utilized in the present invention as a point of support for certain parts of the line-lock attachment.

The line-lock attachment includes as one of the elements thereof a supporting-bracket 6, preferably of an L form and having its upright member 7 fastened to the front side of the fixed frame member 5 through the medium of the screw or equivalent fastenings 8, and to the upper side of said bracket is pivotally connected a horizontally-swinging adjusting-lever 9. This adjusting-lever is of an angled formation and is pivotally supported intermediate its ends upon the said bracket, as at 10. By reason of its angled formation the said lever 9 is provided with a front forwardly-dipped member 11, extending beneath the key-levers K and having its front extremity arranged to engage against the arm projection 12, carried by a horizontally or laterally shiftable locking-comb 13, arranged in matching relation to and at one side of the stationary guiding-comb 14, occupying its usual position in the front of the machine-frame and whose slots 15 constitute guides for the key-levers K in their rising-and-falling movement. The stationary guiding-comb 14 is usually of an angular construction in cross-section, and the shiftable locking-comb is similarly shaped, so as to fit within the angle of the comb 14, as plainly shown in Fig. 2, said guiding-comb thereby forming a slideway for the locking-comb. This locking-comb is preferably held to its sliding movement at the rear side of the guiding-comb by means of the retaining screw or device 16, projecting through a slot 17, formed in the base-flange 18 of the locking-comb and secured in the corresponding flange of the guiding-comb. Also the shiftable or slidable locking-comb has suitably connected thereto one end of a retracting-spring 18^a, the other end of which is fastened to a fixed point of attachment, as at 19, so that the same will normally exert a retracting stress upon the comb 13 in order to hold the slots thereof in register with those of the guiding-comb, whereby the key-levers are perfectly free to be operated. However, it is to be observed that the fingers 19 of the locking-comb are shorter than those of the guiding-comb, so that when the former—that is, the locking-comb—is adjusted to the position shown in Fig. 6 the upper ends of the fingers 19 pass beneath all of the key-levers, and thus positively lock the same against movement and preventing the operation of the type-action.

At the end opposite its operative connection with the locking-comb the horizontally-swinging adjusting-lever 9 has mounted thereon a pivotal tripping-detent 20. The detent 20 projects laterally from the rear end of the adjusting-lever and lies in approximate parallelism to the escapement-rack 4. At one end the tripping-detent has a pivotal mounting, as at 21, upon the rear extremity of the lever 9, and at its other end the said detent is provided with a downwardly-deflected curved stop-finger 22, normally held projected into a path of interference with the right-hand marginal stop 1, so that when the carriage reaches the end of the line the said stop will come in contact with the finger 22. The latter is normally held projected into said path of interference through the medium of a holding-spring 23, connected at one end to the detent at one side of the pivot and at its other end connected to the adjusting-lever. The detent is prevented from being moved to an extreme position by a stop-lug 24, projected from one side of the heel of the detent and engaging against the adjusting-lever.

It will be obvious that when the marginal stop 1 is carried against the stop-finger of the detent the adjusting-lever 9 is oscillated on its pivot 10, thereby causing the locking-comb 13 to be shifted laterally to the locked position, (shown in Fig. 6,) thus locking the entire key and type action from operation. If it is desired to add a few letters to complete a word or to write an additional word, the stop-finger of the detent is thrown forwardly out of engagement with the marginal stop through the medium of the marginal release-key 25.

The marginal release-key 25 occupies its usual position within the central part of the machine in rear of the keyboard. This key is in the form of a bell-crank lever pivotally mounted, as at 26, upon the framework and having the upstanding stop-arm 27, which normally lies in the path of the marginal stop and ordinarily cooperates therewith in the Oliver type-writing machines now upon the market. In the present invention the said arm 27 performs the additional function of a releasing member, which moves against the lower point or nose of the stop-finger 22, so that when the said key 25 is depressed the detent is moved forwardly out of the path of the marginal stop and the retracting-spring 18^a is permitted to retract the locking-comb into register with the guiding-comb, thereby releasing the type-action for the purpose indicated.

In further explanation of the action of the line-lock, assuming that two short words, such as "we are," are being printed and the locking action takes place after printing the word "we," ordinarily the operator will involuntarily strike the space-key of the machine before attempting to write the word "are," and after touching the space-key will find the key-board locked on attempting to write the next letter. Then by pressing the marginal release-key the key-levers are released and the carriage advances beyond the space that divides the words, thus leaving the two words printed with a proper separation. This is rendered possible by the short-

ening of the marginal stop seven-eighths of one space, so that when the letter that throws in the lock is printed the carriage moves up just seven-eighths of one space and is arrested until the release-key is operated, whereupon the carriage moves up the remaining one-eighth of the space. However, if the space-key is struck before the lock is released the movable dog will rise up behind and fall over in front of the corresponding tooth of the escapement-wheel, so that the carriage will then move one and one-eighth spaces when the release-key is pressed, leaving the division-space between the two words.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described line-lock attachment will be readily apparent without further description, and it will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a line-lock attachment, the combination with the key-levers and the movable element bearing the marginal stop, of a locking device operating beneath the keyboard and arranged to be moved into and out of interference with relation to the key-levers, a swinging adjusting-lever supported within the machine-frame and having a connection at one end with said locking device, a movable detent carried by the lever and coöperating with the marginal stop, and a separate release device for said detent.

2. In a line-lock attachment, the combination with the key-levers, the guiding-comb therefor, and the movable machine element bearing a marginal stop, of a shiftable locking-comb slidably supported at one side of the guiding-comb, a horizontally-swinging adjusting-lever pivotally supported intermediate its ends within the machine-frame and operatively related to the locking-comb, an independently-movable detent carried by the lever and coöperating with the marginal stop, and a separate release device for said detent.

3. In a line-lock attachment, the combination with the key-levers and the machine element carrying the marginal stop, of a shiftable slidably-supported locking-comb operating beneath the key-levers, a horizontally-swinging adjusting-lever supported within the machine-frame and operatively related to the comb, a spring-pressed tripping-detent pivotally mounted on the rear end of the adjusting-lever and having a member arranged to be engaged by the stop, and a release device coöperating with said detent.

4. In a line-lock attachment, the combination with the key-levers, the machine element carrying the marginal stop, and the release-key having a member arranged in the path of the marginal stop, of a shiftable locking-comb operating beneath the key-levers, a pivotally-supported swinging adjusting-lever operatively related to the comb, and a spring-pressed tripping-detent pivotally mounted on the rear end of the adjusting-lever and having a member arranged to be engaged by the stop and also by said release-key.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. PARKER.

Witnesses:
W. H. KENDALL,
NORMAN H. SMITH.